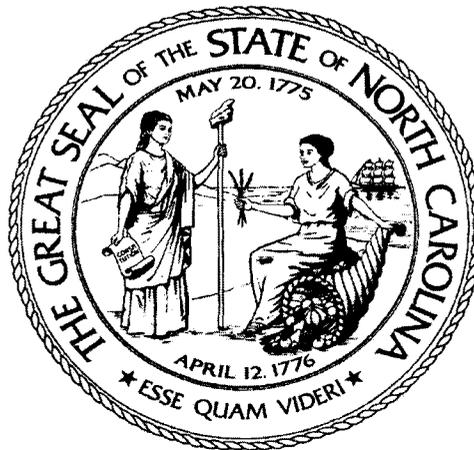


LEGISLATIVE RESEARCH COMMISSION  
COMMITTEE ON UNMANNED AIRCRAFT  
SYSTEMS  
NORTH CAROLINA GENERAL ASSEMBLY



REPORT TO THE  
2014 SESSION  
of the  
2013 GENERAL ASSEMBLY  
OF NORTH CAROLINA

APRIL, 2014

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# TRANSMITTAL LETTER

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May 13, 2014

TO THE MEMBERS OF THE 2014 REGULAR SESSION  
OF THE 2013 GENERAL ASSEMBLY

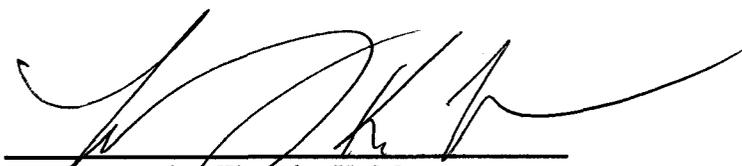
The Legislative Research Commission herewith submits to you for your consideration its report and recommendations to the 2014 Regular Session of the 2013 General Assembly. The report was prepared by the Legislative Research Commission's Committee on Unmanned Aircraft Systems, pursuant to G.S. 120-30.17(1).

Respectfully submitted,



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Senator Thomas M. Apodaca



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Representative Timothy K. Moore

Co-Chairs  
Legislative Research Commission

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# LEGISLATIVE RESEARCH COMMISSION MEMBERSHIP

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2013 – 2014

Senator Thomas M. Apodaca  
Co-Chair

Representative Timothy K. Moore  
Co-Chair

Senator Phil Berger, Ex Officio  
Senator Dan Blue  
Senator Harry Brown  
Senator Martin L. Nesbitt, Jr.

Representative Thom Tillis, Ex Officio  
Representative John M. Blust  
Representative Justin P. Burr  
Representative Becky Carney  
Representative Mike D. Hager

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## PREFACE

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The Legislative Research Commission, established by Article 6B of Chapter 120 of the General Statutes, is the general purpose study group in the Legislative Branch of State Government. The Commission is co-chaired by the President Pro Tempore of the Senate and the Speaker of the House of Representatives and has five additional members appointed from each house of the General Assembly. Among the Commission's duties is that of making or causing to be made, upon the direction of the General Assembly, "such studies of and investigation into governmental agencies and institutions and matters of public policy as will aid the General Assembly in performing its duties in the most efficient and effective manner" (G.S. 120-30.17(1)).

The Legislative Research Commission authorized the study of **Unmanned Aircraft Systems**, under authority of G.S. 120-30.17(1). The Committee was chaired by Representative Mitchell S. Setzer and Representative John A. Torbett, Co-Chairs of the Committee. The full membership of the Committee is listed under Committee Membership. A committee notebook containing the committee minutes and all information presented to the committee will be filed in the Legislative Library by the end of the **2013-2014** biennium.

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## COMMITTEE PROCEEDINGS

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The Legislative Research Commission's Committee on Unmanned Aircraft Systems met four times after the 2013 Regular Session. The Committee's Charge can be found [here](#). The electronic documents accompanying the presentations can be found [here](#). The following is a brief summary of the Committee's proceedings. Detailed minutes and information from each Committee meeting are available in the Legislative Library.

### **January 21, 2014**

The Committee held its first meeting on Tuesday, January 21, 2014, at 1:00 p.m. in Room 1228/1327 of the Legislative Building, with Co-Chair Rep. Mitchell Setzer presiding.

Committee Counsel Bill Patterson reviewed the Committee Charge and explained the limit on the number of meetings and the deadlines for the Committee's report to the Legislative Research Commission.

The Committee received a presentation by Chris Estes, State Chief Information Officer, who provided an introduction to Unmanned Aircraft Systems in North Carolina.

Kyle Snyder, Director, NextGen Air Transportation Center (NGAT), Institute of Transportation Research and Education, gave the Committee an overview of NGAT's North Carolina UAS program.

Committee Counsel Susan Sitze presented a summary of existing State laws that are potentially relevant to activities conducted with the use of UAS.

### **February 17, 2014**

The Committee held its second meeting on Monday, February 17, 2014, at 1:00 p.m. in Room 544 of the Legislative Office Building, with Co-Chair Rep. John Torbett presiding.

The Committee received the following presentations at this meeting:

- Chief Brandon Zuidema, Garner Police Department, and Region VII Director of the North Carolina Association of Chiefs of Police, expressed the Association's concern that premature or overly restrictive regulation could prevent legitimate and valuable uses of UAS technology by law enforcement, and conveyed the Association's request that the Committee defer any action on proposed legislation to regulate UAS.
- State Highway Patrol Sergeant M.A. "Mat" Tribula, Unit Commander/Chief Pilot, Aircraft Operations, expressed the Patrol's concern that UAS operation

in North Carolina will endanger the safety of its piloted aircraft because there is no way to warn the pilot of a potential UAS collision hazard.

- Jason Barton, KSI Video, gave the Committee a presentation describing the way in which private industry manages and archives data obtained by means of UAS.
- Barry Summers, attending as a member of the public from Asheville, requested the opportunity to address the Committee and was recognized to do so. Mr. Summers asked that the Committee consider how State regulation of UAS may be affected by federal regulation or by federal authorization for the U.S. military to use military grade UAS in domestic airspace, and to address the 4th Amendment issues involved in the use of UAS by law enforcement.

Before adjourning, the Committee discussed the issues raised by these presentations, and Rep. Torbett encouraged the members to come to the Committee's next meeting prepared to discuss any suggestions they may have for recommendations to be included in the Committee's report.

#### **March 17, 2014**

The Committee held its third meeting on Monday, March 17, 2014, at 1:00 p.m. in Room 1128/1327 of the Legislative Building, with Co-Chair Rep. Mitchell Setzer presiding.

Ted Lindsley, CEO, Olaeris, spoke to the Committee remotely from Thailand via Skype. Mr. Lindsley's presentation addressed potential economic benefits to North Carolina in supporting the development of commercial UAS use and his company's goal of building the nation's first statewide UAS network in North Carolina. Mr. Lindsley encouraged the Committee to support approval of the governance plan for UAS and sufficient budget for the NGAT Center at N.C. State University.

The Committee received a presentation from Young Kim, General Manager, BOSH Precision Agriculture, who described the potential economic benefits of using UAS to boost productivity in the agriculture industry.

Chris Estes, State Chief Information Officer, presented the Committee with a summary of his March 2014 report to the Joint Legislative Oversight Committee on Information Technology.

Committee Counsel Susan Sitze summarized the provisions of a draft bill to regulate the use of UAS in North Carolina.

Kyle Snyder, Director, NextGen Air Transportation Center, Institute of Transportation Research (ITRE), North Carolina State University, told the Committee that agencies were asking for more time concerning UAS regulations.

Sarah Preston, Policy Director, American Civil Liberties Union of North Carolina, presented a statement to the Committee supporting legislation to require law enforcement agencies to obtain a warrant before using UAS to collect evidence against an individual.

Before adjourning, the Committee discussed the issues raised in the presentations and the use of current laws with small modifications as needed to address UAS.

**April 23, 2014**

The Committee held its fourth and final meeting on Wednesday, April 23, 2014, at 2:00 p.m., with Co-Chair Rep. John A. Torbett presiding. The Committee approved the final report.

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## FINDINGS AND RECOMMENDATIONS

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The Committee on Unmanned Aircraft Systems finds that unmanned aircraft systems have the potential to be a valuable tool in many areas, including law enforcement, public safety, agriculture, and business. Additionally, the development and manufacture of unmanned aircraft systems could prospectively bring industry and jobs to the State. However, the Committee also recognizes the possibility for inappropriate and criminal usage of unmanned aircraft systems, and finds that there should be some guidance and regulation governing the lawful operation of unmanned aircraft systems.

Therefore, the Committee recommends the enactment of Legislative Proposal #1.

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## COMMITTEE MEMBERSHIP

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2013-2014

**House of Representatives Members:**

Representative Mitchell S. Setzer, Co-Chair  
Representative John A. Torbett, Co-Chair

Representative Nathan Baskerville  
Representative John Faircloth  
Representative Carl Ford  
Representative Jim Fulghum, M.D.  
Representative Pricey Harrison  
Representative Tim D. Moffitt  
Representative Michael Speciale  
Representative Joe P. Tolson  
Representative Chris Whitmire  
Representative Timothy K. Moore, Ex Officio

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## COMMITTEE CHARGE

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**Unmanned Aircraft Systems** - The LRC Study Committee on Unmanned Aircraft Systems shall study both the safety and privacy of its citizens, as well as the economic benefits of enabling unmanned aircraft systems ("UAS"), UAS sub-systems, and peripheral support industries and sciences to develop governmental needs and provide commercial growth in the private and academic sectors in the State. This study shall examine:

- (1) The integration of unmanned aircraft into the national airspace (NAS).
- (2) The diverse operational uses for UAS in the areas of search and rescue, natural disaster mitigation, law enforcement operations, surveying, environmental monitoring and infrastructure monitoring.
- (3) Potential economic benefits to the State through the development of UAS.
- (4) Potential privacy concerns and considerations related to the deployment and use of UAS.
- (5) Potentially viable commercial applications for UAS-enabled technology in the future.
- (6) Any other issues pertinent to this study.

Additionally, the committee shall study issues concerning legal and constitutional limitations of UAS technology. These shall include:

- (1) Government limitations prescribed in the United States Constitution and North Carolina Constitutions concerning illegal searches using UAS technology.
- (2) Whether the common law warrant exceptions developed from the 4th Amendment to the United States Constitution extend to the use of UAS including:
  - (a) Imminent harm to life or property.
  - (b) Felony pursuit.
  - (c) Imminent description of evidence, etc.
- (3) The scope of data that may be collected.
- (4) Penalties for unauthorized data collection.
- (5) Admissibility and limitations of evidence collected by UAS technology.
- (6) Data retention and destruction of unauthorized information collected by UAS technology.
- (7) Reporting requirements identifying who used the technology pursuant to a warrant, the offense specified in the warrant, and the nature of the property or person searched.
- (8) Potential extenuating circumstances where legal clarity is needed.

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## STATUTORY AUTHORITY

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### NORTH CAROLINA GENERAL STATUTES ARTICLE 6B.

#### Legislative Research Commission.

##### § 120-30.17. Powers and duties.

The Legislative Research Commission has the following powers and duties:

- (1) Pursuant to the direction of the General Assembly or either house thereof, or of the chairmen, to make or cause to be made such studies of and investigations into governmental agencies and institutions and matters of public policy as will aid the General Assembly in performing its duties in the most efficient and effective manner.
- (2) To report to the General Assembly the results of the studies made. The reports may be accompanied by the recommendations of the Commission and bills suggested to effectuate the recommendations.
- (3), (4) Repealed by Session Laws 1969, c. 1184, s. 8.
- (5), (6) Repealed by Session Laws 1981, c. 688, s. 2.
- (7) To obtain information and data from all State officers, agents, agencies and departments, while in discharge of its duty, pursuant to the provisions of G.S. 120-19 as if it were a committee of the General Assembly.
- (8) To call witnesses and compel testimony relevant to any matter properly before the Commission or any of its committees. The provisions of G.S. 120-19.1 through G.S. 120-19.4 shall apply to the proceedings of the Commission and its committees as if each were a joint committee of the General Assembly. In addition to the other signatures required for the issuance of a subpoena under this subsection, the subpoena shall also be signed by the members of the Commission or of its committee who vote for the issuance of the subpoena.
- (9) For studies authorized to be made by the Legislative Research Commission, to request another State agency, board, commission or committee to conduct the study if the Legislative Research Commission determines that the other body is a more appropriate vehicle with which to conduct the study. If the other body agrees, and no legislation specifically provides otherwise, that body shall conduct the study as if the original authorization had assigned the study to that body and shall report to the General Assembly at the same time other studies to be conducted by the Legislative Research Commission are to be reported. The other agency shall conduct the transferred study within the funds already assigned to it.

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# LEGISLATIVE PROPOSALS

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## LEGISLATIVE PROPOSAL #1

GENERAL ASSEMBLY OF NORTH CAROLINA  
SESSION 2013

H

D

BILL DRAFT 2013-SAz-16A [v.8] (02/17)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)  
4/24/2014 2:47:17 PM

Short Title: Unmanned Aircraft Regulation. (Public)

Sponsors: Representative.

Referred to:

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1 BILL TO BE ENTITLED  
2 AN ACT TO REGULATE THE USE OF UNMANNED AIRCRAFT SYSTEMS AS  
3 RECOMMENDED BY THE LEGISLATIVE RESEARCH COMMISSION'S  
4 COMMITTEE ON UNMANNED AIRCRAFT SYSTEMS.

5 The General Assembly of North Carolina enacts:

6 SECTION 1. Chapter 15A of the General Statutes is amended by adding a  
7 new Article to read:

8 "Article 16B.

9 **USE OF UNMANNED AIRCRAFT SYSTEMS**

10 "**§ 15A-300.1. Restrictions on use of unmanned aircraft systems.**

11 (a) The following definitions apply to this section:

12 (1) Manned aircraft. – An aircraft, as defined in G.S. 63-1, that is operated  
13 with a person in or on the aircraft.

14 (2) Unmanned aircraft. – An aircraft, as defined in G.S. 63-1, that is  
15 operated without the possibility of human intervention from within or  
16 on the aircraft.

17 (3) Unmanned aircraft system. – An unmanned aircraft and associated  
18 elements, including communication links and components that control  
19 the unmanned aircraft that are required for the pilot in command to  
20 operate safely and efficiently in the national airspace system.

21 (b) Except as otherwise provided in this section, no person, entity, or State  
22 agency shall use an unmanned aircraft system to do any of the following:

23 (1) Conduct surveillance of:

24 a. An individual or a dwelling owned by an individual and that  
25 dwelling's curtilage, without the individual's written consent.



1 manned aircraft is taking off, landing, in flight, or otherwise in motion, is guilty of a  
2 Class H felony.

3 (b) The following definitions apply to this section:

4 (1) Manned aircraft. – As defined in G.S. 15A-300.1.

5 (2) Unmanned aircraft system. – As defined in G.S. 15A-300.1"

6 **SECTION 4.** Article 52 of Chapter 14 of the General Statutes is amended by  
7 adding a new section to read:

8 **"§ 14-401.24. Unlawful possession and use of unmanned aircraft systems.**

9 (a) It shall be a Class I felony for any person to possess or use an unmanned  
10 aircraft or unmanned aircraft system that has a weapon attached.

11 (b) It shall be a Class 3 misdemeanor for any person to fish or to hunt using an  
12 unmanned aircraft system.

13 (c) The following definitions apply to this section:

14 (1) To fish. – As defined in G.S. 113-130.

15 (2) To hunt. – As defined in G.S. 113-130.

16 (3) Unmanned aircraft. – As defined in G.S. 15A-300.1.

17 (4) Unmanned aircraft system. – As defined in G.S. 15A-300.1

18 (5) Weapon. – Those weapons specified in G.S. 14-269, 14-269.2,  
19 14-284.1, or 14-288.8, and any other object capable of inflicting  
20 serious bodily injury or death when used as a weapon.

21 (d) This section shall not prohibit possession or usage of an unmanned aircraft or  
22 unmanned aircraft system that is authorized by federal law or regulation."

23 **SECTION 5.(a)** Chapter 63 of the General Statutes is amended by adding a  
24 new article to read:

25 "Article 10.

26 **"OPERATION OF UNMANNED AIRCRAFT SYSTEMS.**

27 **"§ 63-95. Training required for operation of unmanned aircraft systems.**

28 (a) As used in this Article, the term "Division" means the Division of Aviation of  
29 the Department of Transportation.

30 (b) The Division shall develop a knowledge and skills test for operating an  
31 unmanned aircraft system that complies with all applicable State and federal  
32 regulations, and shall provide for administration of the test. The Division may permit a  
33 person, including an agency of this State, an agency of a political subdivision of this  
34 State, an employer, or a private training facility to administer the test developed  
35 pursuant to this subsection, provided the test is the same as that administered by the  
36 Division and complies with all applicable State and federal regulations.

37 (c) No agent or agency of the State, or agent or agency of a political subdivision  
38 of the State, may operate an unmanned aircraft system within the State without  
39 completion of the test set forth in subsection (b) of this section."

40 **"§ 63-96. License required for commercial operation of unmanned aircraft**  
41 **systems.**

42 (a) No person shall operate an unmanned aircraft system, as defined in  
43 G.S. 15A-300.1, in this State for commercial purposes unless the person is in possession  
44 of a license issued by the Division valid for the unmanned aircraft system being  
45 operated. Application for such license shall be made in the manner provided by the

1 Division. Unless suspended or revoked, the license shall be effective for a period to be  
2 established by the Division not exceeding eight years.

3 (b) No person shall be issued a license under this section unless all of the  
4 following apply:

- 5 (1) The person is at least 21 years of age.
- 6 (2) The person possesses a valid driver's license issued by any state or  
7 territory of the United States or the District of Columbia.
- 8 (3) The person has passed the knowledge and skills test for operating an  
9 unmanned aircraft system as prescribed in G.S. 63-95(b).
- 10 (4) The person has satisfied all other applicable requirements of this  
11 Article or federal regulation.

12 (c) A license to operate an unmanned aircraft system for commercial purposes  
13 shall not be issued to a person while the person's license to operate an unmanned aircraft  
14 system is suspended, revoked, or cancelled in any state.

15 (d) The Division shall develop and administer a program to license operators of  
16 unmanned aircraft systems for commercial purposes. The program must include the  
17 following components:

- 18 (1) A system for classifying unmanned aircraft systems based on  
19 characteristics determined to be appropriate by the Division.
- 20 (2) A fee structure for licenses.
- 21 (3) A license application process.
- 22 (4) Technical guidance for complying with program requirements.
- 23 (5) Criteria under which the Division may suspend or revoke a license.
- 24 (6) Criteria under which the Division may waive licensure requirements  
25 for applicants currently holding a valid license to operate unmanned  
26 aircraft systems issued by another state or territory of the United  
27 States, the District of Columbia, or the United States.
- 28 (7) A designation of the geographic area within which a licensee shall be  
29 authorized to operate an unmanned aircraft system.
- 30 (8) Requirements pertaining to the collection, use and retention of data by  
31 licensees obtained through the operation of unmanned aircraft systems,  
32 to be established in consultation with the State Chief Information  
33 Officer.
- 34 (9) Requirements for the marking of each unmanned aircraft system  
35 operated pursuant to a license issued under this section sufficient to  
36 permit identification of the owner of the system and the person  
37 licensed to operate it.
- 38 (10) A system for providing agencies that conduct other operations within  
39 regulated airspace with the identity and contact information of  
40 licensees and the geographic areas within which the licensee is  
41 permitted to operate an unmanned aircraft system.

42 (e) A person who operates an unmanned aircraft system for commercial purposes  
43 other than as permitted under this section shall for a first offense be guilty of an  
44 infraction and shall for a second or subsequent offense be guilty of a Class 3  
45 misdemeanor.

1 (f) The Division may issue rules and regulations to implement the provisions of  
2 this section."

3 **SECTION 5.(b)** The Division of Aviation of the Department of  
4 Transportation shall develop and implement the knowledge and skills test required by  
5 G.S. 63-95, as enacted in subsection (a) of this section, no later than February 1, 2015,  
6 and shall report to the Joint Legislative Transportation Oversight Committee on the  
7 status of implementation by March 1, 2015.

8 **SECTION 5.(c)** The Division of Aviation of the Department of  
9 Transportation shall immediately begin developing the licensing system for commercial  
10 operation required by G.S. 63-96, as enacted in subsection (a) of this section, and shall  
11 ensure that the system complies with Federal Aviation Administration (FAA) guidelines  
12 on commercial operation, as those guidelines become available. Within 60 days of  
13 issuance of the FAA guidelines and authorization by the FAA for commercial  
14 operations to begin, the Division shall implement the licensing system required by  
15 G.S. 63-96, as enacted in subsection (a) of this section.

16 **SECTION 5.(d)** No operation of unmanned aircraft systems by agents or  
17 agencies of the State, or agents or agencies of a political subdivision of the State shall  
18 be authorized in this State until the knowledge and skills test required by G.S. 63-95, as  
19 enacted in subsection (a) of this section, has been implemented.

20 No operation of unmanned aircraft systems for commercial purposes shall be  
21 authorized in this State until the FAA has authorized commercial operations and the  
22 licensing system required by G.S. 63-96, as enacted in subsection (a) of this section, has  
23 been implemented.

24 **SECTION 6.(a)** Section 7.16(e) of S.L. 2013-360 is repealed.

25 **SECTION 7.** Sections 1 and 6 of this act become effective when the  
26 Division of Aviation of the Department of Transportation has implemented the  
27 knowledge and skills test required by G.S. 63-95 as enacted in Section 5 of this act, or  
28 February 1, 2015, whichever occurs first. Sections 2, 3, and 4 of this act become  
29 effective December 1, 2014, and apply to offenses committed on or after that date. The  
30 remainder of this act is effective when it becomes law.